

State of Hawaii
Department of Health

Child and Adolescent Mental Health Division

Child Status Measurement Improvement Study Report

Fiscal Year 2002 - 2003

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For the Period of July 1, 2001 to March 31, 2003
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Executive Summary

The purpose of the present study was to provide in-depth analysis of the progress achieved through quality initiatives targeting increased quarterly completion of child status measures. Completion rates were selected as a proxy measure for quality of clinical care based on cost-benefits analysis and the rationale that if practitioners complete a measure and receive a score, they are likely to attend to the result of the assessment and have it affect their decision-making. Quarterly completion rates of the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1998), Child and Adolescent Level of Care Utilization System (CALOCUS; American Academy of Child and Adolescent Psychiatry, 1999), and the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach 1991a; 1991b; 1991c; Achenbach & Rescorla, 2001) teacher (TRF), parent (CBCL), and youth (YSR) report forms were examined for the 21-month period from July 1, 2001 through March 31, 2003.

The population of this study was all youth registered to the Child and Adolescent Mental Health Division (CAMHD) for one or more days during the period who were eligible for child status measure administration. Youth were excluded from the population if they were outside the age range of the child status measures, were not registered to one of the primary family guidance centers, were not registered for at least 30 days prior to the end of the period, or were diagnosed with pervasive developmental disorder. Youth registered to Kauai were excluded if they did not receive a “high-end” service during the period. A census of the population was included in the study, yielding 3,128 youth.

To improve completion rates, multiple feedback interventions were implemented during the study period. Child status information and completion rates were reported (a) in the Quarterly Performance Management Report, (b) on-line via Oracle Discoverer, (c) as a performance measure to the Performance Improvement Steering Committee, (d) in the Quarterly Sustainability Report, and (e) via the CAMHMIS clinical reporting module.

Statistically significant increases were evident for all measures except the TRF. The CAFAS and CALOCUS rates increased an average of 4 to 5% per quarter, whereas the CBCL and YSR rates increased an average of 1% per quarter. At the end of the period, the CAFAS and CALOCUS were completed on approximately 60% of eligible youth whereas the CBCL and YSR were completed on approximately 10% of eligible youth. The TRF was completed on 15% of youth during the final quarter measured. Thus, the CAFAS and CALOCUS are completed far more frequently than the ASEBA instruments.

System factors such as geographic location (i.e., family guidance center), personnel (i.e., care coordinator), and Med-Quest involvement were the strongest and most consistent predictors of child status measure completion rates. Although there was some evidence that child factors (i.e., age, gender, ethnicity, and diagnosis) related to completion rates, these effects tended to be weak and inconsistent.

The study task force offered the following recommendations:

1. Due to the different completion rates across instruments, monitor completion rates at the level of specific instruments by geographic region and by Med-Quest involvement.
2. Consider in-depth interviews and qualitative analysis of the management processes and personnel of high and low performing units, to further develop an understanding of the organization factors that affect completion of these instruments.
3. Consider development of region specific corrective action plans.
4. As the Central Oahu Family Guidance is the only center to demonstrate a relatively high level of success with the ASEBA, consider further study of that region and assessment of the perceived utility of the ASEBA at the center.
5. Consider performing an experimental study that would randomly assign consumers to complete the ASEBA on a quarterly or semiannual schedule to determine if completion rates are differentially affected in these two groups. Anecdotal reports indicate that care coordinators, families, and teachers perceive quarterly completion of the ASEBA forms as too frequent.

6. To promote interest in, creative use of, and perceived utility of child status information, consider providing a mechanism for users to share “success stories” and describe situations in which the information was used to identify or solve a “tricky” problem.
7. Continue development of the clinical report module. Developments should target improved system speed, increased options for selecting clinically defined (e.g., all youth in a given level of care or all youth admitted within 30 days) and user defined (e.g., select multiple clients for a single report) populations, and broader distribution of the system to multiple computers when this can be accomplished without significantly reducing system performance.

Introduction

The mission of the Child and Adolescent Mental Health Division (CAMHD) of the Hawaii Department of Health is to provide timely and effective mental health services to children and youth with emotional and behavioral challenges, and their families. These services are provided within a system of care that integrates Hawaii's Child and Adolescent Service System Program (CASSP) principles, evidence-based services, and continuous monitoring. To build its evidence base and provide continued monitoring of child service needs and child status improvements, CAMHD has dedicated itself to quarterly administration of five standardized child status measures, namely, the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1998), Child and Adolescent Level of Care Utilization System (CALOCUS; American Academy of Child and Adolescent Psychiatry, 1999), and the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach 1991a; 1991b; 1991c; Achenbach & Rescorla, 2001) teacher (TRF), parent (CBCL), and youth (YSR) report forms.

A multi-step initiative has been implemented to promote the use of these standardized instruments. The initiative began with system-wide training on the nature of the instruments and their clinical utility, which was followed by on-going certification and maintenance training, assessment and reporting of measure completion rates, development of on-line clinical reporting of assessment results, and an ongoing focus upon integration of assessment results in clinical supervision. The purpose of the present study was to provide in-depth analysis of the middle phase of this initiative that focuses on improving measure completion rates.

Completion rates were selected as the preliminary target for quality improvement based on a cost-benefits analysis. Completion rates were readily measurable through user interactions with the automated scoring systems. Completion rate improvements represent an important first step in improving clinical care. It is not uncommon to use completion rates as a proxy measure for actual clinical status scores based on the rationale that if practitioners complete a measure and receive a score, they should generally not ignore the resulting information, which they worked to collect. For example, the Health Plan Employer Data and Information Set (HEDIS) system used a similar rationale to justify collection of completion rates for hemoglobin A1c testing as a measure of quality of diabetes care.

Statewide training on evidence-based assessment including the ASEBA began in November 1998. Training on the CALOCUS began in April of 2000 and CAFAS training began in May 2000. Completion rates were reported in the Quarterly Performance Management report from Jan 2001 to December 2002. Online reports became available in March 2001. Child status measure completion rates were included as performance measures to the CAMHD Performance Improvement Steering Committee (PISC) during the period from February 2002 to December 2002. Revised quarterly performance reporting began in October 2002, was added to the CAMHD Quarterly Sustainability Report in January of 2003, and has been reported to the CAMHD network meeting by family guidance center on a quarterly basis since that time.

The purpose of the present study was to provide in-depth analysis of the progress achieved through quality initiatives targeting increased quarterly completion of child status measures. The primary question of this study was whether child status measure completion rates have increased during the period from July 1, 2001 to March 31, 2003 concurrent with the feedback (i.e., "report-carding") interventions implemented during this time. The secondary goal of the study was to identify demographic and psychographic factors that may be related to completion rates.

Methods

Participants

Participants (N = 3,128) were all youth registered to CAMHD for one or more days during fiscal years 2002 or 2003 and met the following outcome measure eligibility criteria:

1. Were between the ages of six and eighteen years at some point during the quarter.
2. Were at least one calendar month past their most recent intake date at some point during the quarter.
3. Were registered to one of the primary family guidance centers on the last day of the quarter (i.e., Central Oahu, Honolulu Oahu, Leeward Oahu, Windward Oahu, Hawaii, Maui, or Kauai).
4. Were authorized to receive one or more days of high-end services if registered to Kauai.
5. Did not have any primary or comorbid diagnosis of a pervasive developmental disorder.

Youth with a diagnosis of a pervasive developmental disorder were excluded to promote consistency of the sample across fiscal years. The majority of youth with a pervasive developmental disorder were transferred to the Department of Education during fiscal year 2003. To promote consistency across geographic regions, youth receiving only low-end services on Kauai were excluded. This exclusion would tend to overestimate the completion rates on Kauai because in most family guidance centers some registered youth do not have high-end services authorized.

Detailed demographic information is presented in Table 1. Over the past seven quarters, the overall eligible population decreased from approximately 2,300 to 1,100. The average age of youth at the end of the quarter increased from approximately 14 to 15 years, and the proportion of females increased from 30 to 33%. The proportion of the sample with ethnic information available increased over this period, and the predominant ethnic groups were Caucasian, Hawaiian, and Mixed Ethnicity across all quarters. There were increases in the proportion of Hawaiian and other Pacific Islanders and decreases in the proportion of African-American, Chamorro, Chinese, Korean, Micronesian, and Portuguese youth. Geographic distribution of the sample was relatively stable except for significant decreases in the proportion of youth served at Honolulu Oahu. The primary diagnostic groups were attentional, disruptive behavior, and mood disorders. There were increases in the proportion of disruptive behavior and mood disorders and decreases in the proportion of attentional, mental retardation, and miscellaneous disorders as well as youth with no diagnosis recorded or a deferred diagnosis. The proportion of Med-Quest involved youth increased over time from approximately 18 to 28% of the eligible population.

Table 1. Description of sample demographics by fiscal quarter

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
Youth (N)	2,299	1,967	1,764	1,635	1,430	1,180	1,103
Age (in Years at End of Quarter)***							
Mean	14.3	14.4	14.6	14.7	14.8	14.8	15.1
SD	3.1	3.1	3.0	3.0	2.9	2.8	2.7
Gender (% of Youth)***							
Females	29.9	30.0	30.6	31.5	31.4	31.6	33.2
Males	70.1	70.0	69.4	68.5	68.6	68.4	66.8
Ethnicity (% of Available)							
African-American*	2.6	2.7	2.7	2.7	2.4	2.1	2.2
African, Other	0.3	0.4	0.4	0.3	0.4	0.3	0.2
American Indian	0.4	0.4	0.2	0.4	0.4	0.5	0.5
Asian, Other	1.3	1.1	1.1	1.1	1.0	1.2	0.9
Caucasian, Other	21.6	21.5	21.6	21.1	20.3	22.3	22.0
Chamorro*	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Chinese***	1.0	0.9	0.6	0.5	0.5	0.2	0.2
Filipino	6.3	6.6	6.0	6.1	6.4	6.9	6.9
Hawaiian**	23.7	24.2	24.2	24.7	25.0	25.2	24.9
Hispanic, Other	1.1	1.1	1.2	1.3	1.2	1.0	0.8
Japanese	4.3	3.9	3.9	4.0	3.8	3.8	4.1
Korean***	0.6	0.6	0.4	0.4	0.4	0.2	0.1
Micronesian**	0.6	0.5	0.5	0.4	0.4	0.2	0.3
Mixed	28.0	28.3	28.7	29.0	29.4	27.7	28.5
Pacific Islander, Other**	1.3	1.3	1.3	1.6	1.5	1.7	2.0
Portuguese*	3.0	2.8	3.0	2.8	3.0	2.4	2.4
Puerto Rican	0.8	0.8	1.0	1.0	1.0	1.1	0.8
Samoan	3.3	3.0	3.0	2.6	2.9	3.3	3.1
Not Available (% of Youth)***	36.8	27.8	23.4	21.6	21.8	20.9	20.1

Table 1 (continued). Description of sample demographics by fiscal quarter

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
Family Guidance Center (% of Youth)							
Central Oahu	11.5	12.6	13.0	12.8	13.4	10.6	10.3
Windward Oahu	14.1	15.6	16.2	15.5	14.5	16.9	14.8
Leeward Oahu	14.9	14.2	14.2	14.3	14.3	15.2	15.2
Honolulu Oahu*	15.6	15.2	15.8	15.5	14.8	11.9	12.0
Hawaii (Big Island)	27.6	26.8	25.8	26.7	27.7	29.2	31.5
Maui	11.1	9.7	9.4	9.8	10.1	11.2	11.2
Kauai	5.2	5.8	5.7	5.4	5.2	4.9	5.1
Any Primary or Co-morbid Diagnosis (% of Youth)							
Attentional***	25.1	25.6	24.8	23.5	22.8	21.7	21.4
Disruptive Behavior*	25.5	26.1	26.4	26.0	26.7	26.5	26.7
Substance-Related	3.0	2.8	3.1	3.1	2.9	3.2	4.1
Anxiety	8.7	9.2	9.2	9.5	9.2	9.2	8.9
Mood***	17.6	17.8	19.5	21.2	21.6	23.3	24.4
Adjustment	10.1	9.7	9.4	10.3	9.7	9.2	7.4
Miscellaneous*	8.7	9.0	8.8	8.8	8.7	7.8	7.6
Mental Retardation**	4.9	4.3	4.3	3.9	3.8	2.2	2.5
Pervasive Developmental	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred**	0.5	0.3	0.3	0.2	0.3	0.1	0.1
None Recorded**	1.1	0.6	0.5	0.3	0.2	0.1	0.1
Med-Quest Involvement (% of Youth)**							
Med-Quest	17.9	22.6	23.1	25.3	28.7	29.0	28.0
Non-Quest	82.1	77.4	76.9	74.7	71.3	71.0	72.0

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Materials

Child and Adolescent Mental Health Information System (CAMHMIS) Fields. Information was gathered and entered into CAMHMIS through the standard operating procedures of the regional Family Guidance Centers. Detailed information about the structure of the CAMHMIS database is available in the CAMHMIS data dictionary. The following variables were used for the present analyses:

Diagnostic Status was defined based on Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) codes entered into CAMHMIS. Youth registered with CAMHD receive annual diagnostic evaluations from the Department of Education, DOE providers, or occasionally CAMHD staff. Children and youth may receive multiple diagnoses on the first two axes of the DSM system. Diagnoses on either axis whether (primary, secondary, or tertiary) were counted.

Admissions were defined to include both new registrations and repeated registrations without a discharge within the preceding three-month period. New registrations were counted when a new record is created for a youth previously unknown to CAMHD with a registration start date within the reporting period. Repeated registrations were identified whenever a previously known youth had at least one registration record during the reporting period indicating a change in registration status from a discharged status to a registered status.

High-end Services were defined to include psychosexual assessments, intensive home and community based services (including multisystemic therapy), day treatment, partial hospitalization, intensive day

stabilization, therapeutic foster homes, therapeutic group homes, respite home, community-based residential, community high-risk residential, hospital-based residential, acute inpatient, out-of-state, and respite services. High-end services also included flex funded services for any of these levels of care. Whether a youth received high-end services from the Kauai family guidance center was determined by examining service authorizations for the quarter.

Quest Involvement was determined through a daily transaction that examines the list of Quest eligible youth published by Med-Quest Division and identifies those youth actively registered in CAMHMIS on that day. A youth was defined as Quest involved if the youth was recorded in the CAMHD Quest Eligibility database as eligible for Quest on one or more days during the reporting period.

Status Measure Completion was defined as an eligible youth having one or more child status measure records in CAMHMIS during the calendar quarter.

Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1998). The CAFAS is 200-item clinician report scale measure youth's level of functional impairment. Based on their knowledge and experience with the child, raters review behavioral descriptions ordered by level of impairment within eight domains of functioning. The subscales of School Role Performance, Home Role Performance, Community Role Performance, Behavior Toward Others, Mood/Emotions, Mood/Self-Harmful Behavior, Substance Use and Thinking are calculated by scoring the highest level of impairment (i.e., severe = 30, moderate = 20, mild = 10, no/minimal = 0) endorsed within the respective domain of items. An eight-scale total score is calculated by summing across the eight subscales, whereas a five-scale total is calculate by summing the raw scores from behavior, substance use, and thinking scales with the maximum score from the school, home, and community role performance scales and with the maximum score from the emotions and self-harm. The CAFAS has been found to have acceptable internal consistency across items, inter-rater reliability across sites, and stability across time (Hodges, 1995; Hodges & Wong, 1996). Studies of concurrent validity have found that CAFAS scores are related to severity of psychiatric diagnosis, intensity of care provided, restrictiveness of living settings, juvenile justice involvement, social relationship difficulties, school-related problems, and risk factors. Studies of predictive validity have found that CAFAS scores from intake assessments predict service utilization and cost for services.

Child and Adolescent Level of Care Utilization System (American Academy of Child and Adolescent Psychiatry, 1999). The CALOCUS is a clinician rating form. Clinicians make dimensional ratings on a five-point scale in the domains of risk of harm, functional status, co-morbidity, environmental stress, environmental support, resiliency and treatment history, child treatment acceptance and engagement, and parent treatment acceptance and engagement. These ratings may be summed to yield a total score, but are also combined through a detailed algorithm into a level of care judgment into one of seven categories: basic services (Level 0), recovery maintenance and health management (Level 1), outpatient services (Level 2), intensive outpatient services (Level 3), intensive integrated service without 24-hour medical monitoring (Level 4), non-secure, 24-hour, medically monitored services (Level 5), and secure, 24-hour, medically managed services. Preliminary reliability (Ted Fallon, 2002, personal communication) indicated that intrajudge agreement based on clinical vignettes ranged from ICC (2,2) = .57 - .95 across scales with all scale above .70 except for environmental stress and child treatment acceptance and engagement. Preliminary validity analysis found that the CALOCUS total score correlated -.33 with the Child Global Assessment of Scale (CGAS) and .62 with the CAFAS 8-scale total score.

ASEBA Child Behavior Checklist (CBCL; Achenbach, 1991a; Achenbach & Rescorla, 2001). The CBCL is a 113-item child behavior problem checklist completed by parents, parent-surrogates, or others who know the children in family-like settings. Respondents are asked to rate items on a three point scale from not true to very true or very often that describe a youth "now or within the past 6 months." It provides total, broadband, syndrome, and competence scales. The broadband problem scales measure an internalizing factor and an externalizing factor. The syndrome scales measure withdrawn behavior, somatic complaints, anxious/depressed behavior, delinquent behavior, aggressive behavior, social problems, thought problems, and attention problems. The competence scales assess school, activity, and social competence. Raw scores and T-scores (Mean = 50, SD = 10) based on gender and age groups from the standardization sample are available. Achenbach (1991a) reported acceptable internal consistency ($\alpha = .90$ internalizing, $\alpha = .93$ externalizing) and test-retest reliability (one-week $r = .89, .93$; one-year $r = .79, .87$; two-year $r = .70, .86$) for the CBCL. Achenbach (1991a) also reviewed numerous studies supporting the validity of the CBCL relative to other parent-report behavior checklists, clinic-referral status, and categorical

psychiatric diagnosis. T-scores were used in all analyses. Achenbach & Rescorla (2001) reported internal consistency ($\alpha = .90 - .92$ broadband, $\alpha = .82 - .92$ syndrome, $\alpha = .82 - .93$ competence), parent agreement ($r = .72 - .85$ broadband, $r = .65 - .85$ syndrome, $r = .57 - .76$ competence), 8-day test-retest reliability ($r = .91 - .92$ broadband, $r = .67 - .88$ syndrome, $r = .83 - .91$ competence), 12-month stability ($r = .80 - .82$ broadband, $r = .64 - .82$ syndrome, $r = .62 - .76$ competence), and 24-month stability ($r = .70 - .82$ broadband, $r = .56 - .81$ syndrome, $r = .43 - .73$ competence) for the CBCL.

ASEBA Teacher Report Form (TRF) (TRF; Achenbach, 1991b; Achenbach & Rescorla, 2001). The TRF is a 113-item behavior problem checklist that is completed by teachers or school personnel who know the child in school-like settings. Respondents are asked to rate items on a three point scale from not true to very true or very often that describe a pupil “now or within the past 2 months.” It provides total, broadband, syndrome, and competence scales. As with the CBCL and YSR, the TRF provides total, broadband, syndrome and competence scales. The broadband problem scales measure an internalizing factor and an externalizing factor. The syndrome scales measure withdrawn behavior, somatic complaints, anxious/depressed behavior, delinquent behavior, aggressive behavior, social problems, thought problems, and attention problems. The TRF competence (a.k.a. adaptive functioning) assessment differ from the other ASEBA forms and yields the following scales: academic performance, working hard, behaving appropriately, learning, and happy. Raw scores and T-scores (Mean = 50, SD = 10) based on gender and age groups from the standardization sample are available. Achenbach & Rescorla (2001) reported internal consistency ($\alpha = .90 - .95$ broadband, $\alpha = .72 - .95$ syndrome, $\alpha = .90$ total adaptive functioning), teacher agreement ($r = .58 - .69$ broadband, $r = .28 - .69$ syndrome, $r = .37 - .58$ competence), 16-day test-retest reliability ($r = .86 - .89$ broadband, $r = .60 - .96$ syndrome, $r = .78 - .93$ competence), 4-month stability ($r = .48 - .69$ broadband, $r = .38 - .84$ syndrome) for the TRF.

ASEBA Youth Self-Report (YSR) (YSR; Achenbach, 1991c; Achenbach & Rescorla, 2001). The YSR is a 112-item behavior problem checklist that is completed by youth between 11 and 18 years of age. Respondents are asked to rate items on a three point scale from not true to very true or very often that describe a themselves “now or within the past 6 months.” It provides total, broadband, syndrome, and competence scales. It provides total, broadband, and narrowband problem and competence scales. The broadband problem scales measure an internalizing factor and an externalizing factor. The narrowband problem scales measure the following dimensions: withdrawn behavior, somatic complaints, anxious/depressed behavior, delinquent behavior, aggressive behavior, social problems, thought problems, and attention problems. Raw scores and T-scores (Mean = 50, SD = 10) based on gender and age groups from the standardization sample are available. The YSR competence scales measure activity and social competence, but not school competence. Achenbach & Rescorla (2001) reported internal consistency ($\alpha = .90$ broadband, $\alpha = .71 - .90$ syndrome, $\alpha = .55 - .75$ competence), 8-day test-retest reliability ($r = .80 - .89$ broadband, $r = .67 - .88$ syndrome, $r = .83 - .91$ competence), and 7-month stability ($r = .53 - .59$ broadband, $r = .36 - .63$ syndrome, $r = .43 - .59$ competence) for the YSR.

Procedures

Care coordinators are responsible for organizing completion of child status measures on a quarterly basis. Care coordinators serve as the primary raters for the CAFAS and CALOCUS instruments. They are also tasked with distributing and collecting ASEBA forms from parents, teachers, and youth over 11 years of age. CAFAS and CALOCUS results are entered directly into networked computer scoring programs by care coordinators or statistics clerks. The ASEBA information is collected on optical scan forms that are sent via state courier to the CAMHD Management Information System (MIS) office for processing and uploading to CAMHMIS.

Analysis and Results

General linear model analysis was used to examine time (measured in quarters) as an independent variable in relation to the child status measures as dependent variables (i.e., completion, scores, slopes). Because each quarter represented a different population, time was treated as a between-subjects factor. T-tests were performed on the slope of the line describing the relationship between time and child status to determine whether if the slope was different than zero (i.e., some change occurred across time). An alpha level of .05 was used for all analyses.

Question #1: Did quarterly completion rates for the child status measures improve over the period from July 1, 2002 through March 31, 2003?

Significant increases in child status measure completion rates were evident for the CAFAS, CALOCUS, CBCL and YSR (see Figure 1). Completion rates for the CAFAS and CALOCUS were considerably higher than those for the ASEBA measures. The CAFAS completion rates increased an average of 4.3% per quarter, $t(5) = 4.34$, $p = .007$, $R^2 = .79$, from a baseline of 35% to final rate of 60% completion. This increase was well described by a linear model that explained 79% of the total variance in completion rates across quarters. The CALOCUS completion rates were also well described by a linear model ($R^2 = .91$) and increased an average of 5.1% per quarter, $t(5) = 7.08$, $p = .001$, from a baseline of 30% to final rate of 58% completion.

Completion rates for the YSR increased an average of 1.2% per quarter, $t(5) = 3.97$, $p = .011$, $R^2 = .76$, from a baseline of 5% to final rate of 11% completion. The CBCL showed the weakest of the significant effects with an average increase of 0.8% per quarter, $t(5) = 2.62$, $p = .047$, $R^2 = .58$, from a baseline of 5% to final rate of 10% completion. The TRF completion rate demonstrated a positive slope, but was not significantly different from zero and was relatively poorly defined by a linear model ($R^2 = .37$). The estimated slope for the TRF completion rate was 1.2% increase per quarter, $t(5) = 1.69$, $p = .152$, from a baseline of 6% to final rate of 15% completion.

Taken together, these findings suggest that significant improvements in the quality of child status data were achieved for the CAFAS, CALOCUS, CBCL, and YSR. At the end of the period, the CAFAS and CALOCUS were being collected on approximately 60% of eligible youth. Although rates were improving, the ASEBA was only being collected on one-tenth of the eligible youth. The performance target for each of these measures is 85% completion per quarter; therefore, all completion rates remain below the target. If current improvement rates were maintained, the performance target would be achieved in fourth quarter of fiscal year 2004 for the CAFAS and CALOCUS, but not until fiscal year 2018 or 2019 for the ASEBA.

Question #2: What demographic and psychographic factors are related with child status measure completion rates for each quarter?

Follow up analyses examined whether youth age, gender, ethnicity, geographic region, and diagnostic status were related to the child status measure completion rates. Analyses were conducted cross-sectionally within each fiscal quarter. Due to the large number of tests performed, the alpha level was adjusted to .007 (.05 / 7 quarters = .007). Analysis of trends across quarters was also performed for gender, ethnic, geographic and diagnostic groups using an alpha level of .05.

Age. The association between age and completion rates was examined using simple correlations within each quarter. Consistently significant age effects were not apparent, although several significant, but small magnitude correlations were evident during fiscal year 2002 (see Table 2). In all cases where the correlations were significant, a negative correlation was evident and indicated that older age was associated with lower completion rates. However, the low magnitude and inconsistent significance suggest that an age effect is not sufficiently robust to serve as a target for quality improvement intervention.

Table 2. Correlations between age in years and child status measure completion rates for each fiscal quarter.

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
r-value	.03	-.04	-.07	-.07	-.06	.06	.07
p-value	.164	.079	.004	.006	.015	.041	.028
CALOCUS							
r-value	.02	-.02	-.05	-.07	-.05	.01	.04
p-value	.430	.423	.056	.003	.060	.840	.184
TRF							
r-value	-.06	-.06	-.03	-.04	-.12	.01	-.02
p-value	.005	.005	.236	.126	.000	.722	.552
CBCL							
r-value	-.04	-.04	-.06	-.07	-.02	.03	-.03
p-value	.040	.094	.013	.003	.464	.275	.255
YSR (11 – 18 years only)							
r-value	.01	.02	.02	.02	-.03	.07	-.01
p-value	.540	.397	.385	.493	.325	.033	.743

Note: Boldface indicates statistically significant effects.

Gender. Independent sample t-tests comparing the completion rates across males and females also revealed a few significant differences (see Table 3). In all cases of significant effects, the completion rates were higher for females than for males. Three of the four significant findings emerged in the most recent two quarters analyzed. Further, although not significant, during the most recent quarters completion rates for all measures demonstrated a tendency toward higher completion rates in females than males. The size of this effect varied from a one to 10 percent preference for females. Again, this is not a large and consistent effect, but provides some indication that gender could be fruitfully considered in selecting future improvement strategies.

Table 3. Completion rates and independent sample t-tests of the relationship between youth gender and child status measure completion rates for each fiscal quarter.

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
Females	.40	.51	.45	.49	.60	.68	.66
Males	.33	.50	.43	.50	.59	.65	.57
t-value	-3.10	0.37	1.05	-0.44	0.26	1.12	2.81
p-value	.002	.709	.296	.662	.798	.262	.005
CALOCUS							
Females	.33	.38	.36	.43	.57	.61	.64
Males	.29	.37	.33	.45	.52	.58	.54
t-value	-1.53	0.22	0.86	-0.80	1.52	0.98	3.17
p-value	.126	.829	.391	.425	.130	.326	.002
TRF							
Females	.07	.09	.15	.13	.06	.24	.18
Males	.06	.11	.16	.12	.10	.16	.13
t-value	-0.62	-0.81	-0.26	0.71	-2.42	3.18	2.40
p-value	.539	.417	.793	.478	.016	.002	.017
CBCL							
Females	.05	.07	.11	.06	.10	.12	.11
Males	.05	.07	.09	.06	.08	.11	.09
t-value	0.30	-0.16	1.23	0.27	1.26	0.37	1.34
p-value	.763	.874	.220	.788	.209	.712	.180
YSR							
Females	.05	.05	.09	.04	.10	.13	.14
Males	.05	.06	.06	.05	.10	.10	.10
t-value	-0.51	-0.79	2.35	-0.45	-0.18	1.09	1.82
p-value	.607	.431	.019	.652	.859	.274	.070

Note: Boldface indicates statistically significant effects.

Ethnicity. Analysis of Variance (ANOVA) was used to compare a seven-category ethnic group variable with child status measure completion rates. A handful of statistically significant findings emerged across fiscal years (see Table 4). The most consistent pattern to emerge was that ethnicity was related to completion rates on the teacher report form (TRF) of the ASEBA. In five of seven cases when significant effects were evident, youth of Native Hawaiian or Pacific Island descent had lower completion rates than multiethnic youth. Various other pairwise effects were significant, but a consistent pattern was not readily apparent.

Table 4. Completion rates and the results of Analysis of Variance (ANOVA) testing the relationship between youth ethnicity and child status measure completion rates for each fiscal quarter.

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
American Indian or Alaska Native	.83	.40	.33	.60	1.00	.60	.50
Asian	.34	.49	.45	.42	.61	.68	.77
Black or African American	.50	.44	.46	.58	.55	.91^a	.76
Hispanic or Puerto Rican	.33	.46	.45	.57	.58	.68	.71
Multiethnic	.45	.53	.43	.53	.60	.78^{b,c}	.63
Native Hawaiian or Pacific Islander	.36	.52	.41	.47	.59	.61^{a,b}	.57
White	.41	.49	.45	.54	.62	.64^c	.59
F-value	2.89	0.45	0.27	1.79	0.70	4.24	2.72
p-value	.008	.848	.952	.097	.650	.000	.013
CALOCUS							
American Indian or Alaska Native	.83	.60	.33	.60	.80	.60	.50
Asian	.32	.35	.30	.39	.56	.61	.69
Black or African American	.38	.37	.24	.58	.39	.78	.76
Hispanic or Puerto Rican	.26	.36	.45	.53	.67	.68	.64
Multiethnic	.38	.43	.33	.50	.55	.62	.63
Native Hawaiian or Pacific Islander	.29	.33	.32	.40	.54	.51	.53
White	.36	.44	.37	.46	.56	.60	.60
F-value	2.85	2.45	1.07	2.42	1.02	2.27	2.06
p-value	.009	.023	.377	.025	.409	.036	.056
TRF							
American Indian or Alaska Native	.00	.20	.33	.20	.60^{a,f}	.00	.00
Asian	.05^a	.08	.14	.12	.10^a	.19	.14
Black or African American	.12	.00	.22	.13	.00^b	.26	.24
Hispanic or Puerto Rican	.00	.11	.28	.07	.00^c	.11	.29
Multiethnic	.13^{a,b}	.10	.19	.19^a	.09^d	.28^a	.22
Native Hawaiian or Pacific Islander	.06^b	.11	.13	.09^a	.09^e	.14^a	.13
White	.09	.14	.18	.16	.10^f	.22	.16
F-value	3.19	2.12	1.82	3.11	3.67	3.21	1.72
p-value	.004	.049	.092	.005	.001	.004	.114

Note: Boldface indicates statistically significant effects.

Table 4 (continued). Completion rates and the results of Analysis of Variance (ANOVA) testing the relationship between youth ethnicity and child status measure completion rates for each fiscal quarter.

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CBCL							
American Indian or Alaska Native	.00	.00	.33	.00	.00	.00	.00
Asian	.05	.07	.12	.03	.10	.14	.16
Black or African American	.02	.02	.00	.00	.00	.17	.05
Hispanic or Puerto Rican	.04	.14	.03	.03	.08	.11	.07
Multiethnic	.08	.05	.11	.05	.07	.16	.12
Native Hawaiian or Pacific Islander	.04	.08	.09	.06	.09	.08	.07
White	.06	.09	.12	.09	.13	.14	.13
F-value	1.35	1.38	1.72	2.23	1.72	1.88	1.80
p-value	.233	.218	.112	.038	.113	.081	.095
YSR							
American Indian or Alaska Native	.33	.00	.00	.00	.00	.25	.00^{a,b}
Asian	.04	.04	.08	.07	.10	.15	.23
Black or African American	.03	.08	.03	.00	.04	.24	.13
Hispanic or Puerto Rican	.00	.04	.04	.00	.00	.06	.33
Multiethnic	.06	.04	.08	.04	.11	.17^a	.14
Native Hawaiian or Pacific Islander	.05	.08	.06	.04	.11	.05^a	.09^a
White	.05	.08	.10	.05	.12	.14	.10^b
F-value	1.40	1.60	0.93	0.79	0.73	3.45	3.34
p-value	.213	.144	.472	.576	.625	.002	.003

Note: ^{a-f} items sharing superscripts were significantly different at $\alpha < .05$ using Tukey HSD; boldface indicates statistically significant effects.

Diagnosis. Due to comorbidity among diagnostic groups, analysis were performed by using t-tests comparing youth with any diagnosis in a group (e.g., any adjustment disorder) to those youth without a diagnosis in that group (i.e., no adjustment disorder). Thus, analyses described whether the presence of the diagnosis was associated with higher or lower rates of child status measure completion. This analyses did not simultaneously test whether the different diagnostic groups had differential completion rates.

A handful of significant findings were evident in relation to the diagnostic groupings (see Table 5). However, the only relative pervasive pattern to emerge was that youth with no diagnosis, a deferred diagnosis, or no diagnostic information available tended to have somewhat lower completion rates than youth with one or more clinical diagnoses. Within the substantive diagnostic groups youth with mental retardation were periodically found to have lower completion rates on the CAFAS (1 of 7 quarters), CALOCUS (2 of 7), and YSR (1 of 7). Thus, there is some minor indication that measures are completed less frequently for youth with mental retardation. No other diagnostic group effect replicated in more than one quarter.

Thus, these diagnostic analyses provided little evidence to guide fruitful intervention. It is possible that use these measures with youth who suffer mental retardation may require special skills or sensitivities. Identification and additional training on these skills might help reduce the discrepancy in completion rates. However, the erratic nature of this effect and the small effect size suggest that this type of intervention would at best promote minor improvements in a small segment (2 – 5 %) of the population. Even if intervention led to 100% completion rates for youth with Mental Retardation, overall completion rates would only increase by a couple of percent. Thus, the costs of such intervention probably outweigh the benefits.

Table 5. Quarterly completion rates and results of independent sample t-tests comparing child status completion rates for youth with any diagnosis in a diagnostic group to youth without a diagnosis in that group.

Average Completion Rates	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
Attentional*	.36	.52	.46	.51	.59	.66	.55
Disruptive Behavior*	.40	.49	.42	.52	.61	.70	.60
Substance-Related	.47	.53	.39	.42	.55	.63	.62
Anxiety*	.36	.51	.38	.47	.56	.67	.64
Mood*	.38	.52	.44	.50	.61	.65	.64
Adjustment	.31	.48	.39	.45	.58	.49^b	.52
Miscellaneous*	.33	.49	.40	.49	.54	.60	.64
Mental Retardation	.28	.44	.31	.34	.27^b	.58	.61
None Recorded*	.20	.50	.22	.40	.33	1.00	1.00
Deferred	.45	.33	.17	.25	.25	1.00	1.00
Not Available*	.09^b	.31^b	.34	.27	.59	.67	.47
CALOCUS							
Attentional*	.35	.39	.38	.47	.53	.58	.52
Disruptive Behavior*	.33	.38	.33	.45	.55	.60	.59
Substance-Related	.43	.45	.37	.36	.52	.58	.56
Anxiety*	.26	.38	.29	.39	.48	.56	.60
Mood*	.32	.38	.37	.42	.54	.61	.61
Adjustment*	.26	.30	.28	.41	.56	.52	.51
Miscellaneous*	.26	.34	.29	.44	.49	.55	.62
Mental Retardation	.25	.26	.21	.27^b	.27^b	.65	.43
None Recorded*	.24	.42	.33	.40	.33	1.00	1.00
Deferred	.55	.33	.17	.25	.25	1.00	1.00
Not Available*	.08^b	.22^b	.23	.18	.59	.42	.40
TRF							
Attentional	.08	.12	.18	.12	.12	.17	.15
Disruptive Behavior	.08	.10	.15	.12	.07	.19	.14
Substance-Related	.04	.09	.15	.16	.00^b	.05^b	.13
Anxiety	.07	.10	.14	.15	.11	.14	.13
Adjustment*	.05	.07	.07	.08	.07	.11	.10
Mood	.06	.12	.15	.11	.08	.23	.17
Miscellaneous*	.06	.08	.14	.15	.10	.16	.19
Mental Retardation	.06	.14	.13	.09	.07	.12	.07
None Recorded*	.16	.17	.00^b	.00^b	.00^b	.00	.00
Deferred	.00^b	.00^b	.00^b	.00^b	.00^b	.00	.00
Not Available	.00^b	.04	.17	.18	.00^b	.25	.00^b

Note: * Significant trend across fiscal quarters using α of .05; ^a significantly higher completion rate than those without the diagnosis; ^a significantly lower completion rate than those without the diagnosis; boldface indicates statistically significant effects.

Table 5 (continued). Quarterly completion rates and results of independent sample t-tests comparing child status completion rates for youth with any diagnosis in a diagnostic group to youth without a diagnosis in that group.

Average Completion Rates	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CBCL							
Attentional	.06	.07	.11	.07	.09	.10	.10
Disruptive Behavior*	.05	.06	.09	.05	.10	.11	.10
Substance-Related	.09	.04	.13	.06	.05	.13	.07
Anxiety	.05	.08	.09	.08	.08	.06	.08
Mood	.04	.10	.10	.05	.08	.15	.12
Adjustment	.05	.04	.14	.04	.07	.08	.04^b
Miscellaneous*	.05	.07	.08	.09	.12	.09	.10
Mental Retardation*	.04	.06	.07	.06	.07	.08	.11
None Recorded	.04	.17	.11	.00^b	.00^b	.00	.00
Deferred	.09	.00^b	.00^b	.00^b	.00^b	.00	.00
Not Available	.03	.04	.09	.18	.12	.17	.07
YSR							
Attentional	.05	.06	.07	.03	.12	.09	.11
Disruptive Behavior*	.05	.06	.06	.05	.11	.13	.11
Substance-Related	.06	.04	.11	.04	.05	.13	.11
Anxiety	.06	.05	.10	.02^b	.07	.07	.09
Mood*	.04	.07	.07	.06	.10	.13	.11
Adjustment	.04	.06	.07	.01^b	.08	.06	.07
Miscellaneous*	.05	.04	.04	.09	.09	.12	.14
Mental Retardation*	.00^b	.07	.06	.02	.10	.08	.15
None Recorded	.00^b	.00^b	.00^b	.00^b	.00^b	.00	.00
Deferred	.00^b	.00^b	.00^b	.00^b	.00^b	.00	.00
Not Available	.02	.02	.03	.11	.07	.00^b	.00^b

Note: * Significant trend across fiscal quarters using α of .05; ^a significantly higher completion rate than those without the diagnosis; ^a significantly lower completion rate than those without the diagnosis; boldface indicates statistically significant effects.

Geographic Region. Analysis of variance (ANOVA) was also used to examine the relationship between geographic region and child status measure completion rates. Strong and consistent results (34 of 35 tests) indicated that geographic region was significantly associated with completion rates (see Table 6). The regions with the highest completion rates tended to be Central Oahu, Honolulu Oahu, and Maui, whereas Leeward Oahu and Hawaii tended to have an intermediate level of completion rates, and Kauai tended to have the lowest rates. The completion rates at Windward Oahu were quite variable and averaged an intermediate level.

Considerable differences were evident across measures. When ASEBA was examined, the Central Oahu region stands out as having much higher completion rates (20 – 60% during the most recent two quarters) than all other areas. In second quarter of fiscal year 2003, Honolulu Oahu reached completion rates in the mid to high 20% range, but no other region has reached the 20% mark. Kauai does not currently enter any ASEBA's into CAMHMS because their providers use stand-alone scoring programs.

Statistically significant increases over time were evident for Central Oahu, Honolulu Oahu, and Maui in CAFAS completion rates. CALOCUS completion rates significantly increased for Leeward Oahu, Honolulu Oahu, Maui, and Kauai. No statistically significant increases were evident in ASEBA rates. Point estimates of completion rate slopes were positive for all regions across all measures, except that Windward Oahu showed no change in CAFAS completion rates (see Figure 2).

Table 6. Percent of youth with child status measures completed and the results of Analysis of Variance (ANOVA) testing the relationship between geographic region and child status measure completion rates for each fiscal quarter.

Average Completion Rates	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
Central Oahu*	59.2	50.8	49.8	71.9	58.6	84.8	87.7
Windward Oahu	28.7	37.8	28.1	51.0	43.3	44.0	19.6
Leeward Oahu	17.8	57.1	47.0	40.6	61.5	72.6	53.0
Honolulu Oahu*	44.1	41.8	26.5	29.6	61.1	97.2	97.0
Hawaii (Big Island)	32.8	58.6	52.7	49.4	66.4	53.3	55.6
Maui*	51.8	63.9	71.5	81.3	82.1	80.3	82.1
Kauai	5.0	25.4	23.2	17.2	16.4	38.6	34.5
F-value	38.45	15.67	27.28	35.77	21.35	35.64	58.83
p-value	.000	.000	.000	.000	.000	.000	.000
CALOCUS							
Central Oahu	52.8	54.8	41.9	75.7	58.1	71.2	86.0
Windward Oahu	22.5	32.6	21.1	45.5	41.3	41.5	19.6
Leeward Oahu*	8.7	30.0	33.9	35.5	55.6	63.1	54.8
Honolulu Oahu*	32.7	28.1	17.6	25.7	48.3	85.1	93.9
Hawaii (Big Island)	33.1	38.7	42.4	38.4	57.3	43.8	49.6
Maui*	49.4	63.9	70.9	81.3	82.8	80.3	81.3
Kauai*	0.0	5.3	1.0	3.4	11.0	49.1	30.9
F-value	46.12	29.06	42.50	56.21	22.12	24.96	56.14
p-value	.000	.000	.000	.000	.000	.000	.000
TRF							
Central Oahu	26.0	0.4	37.1	41.9	1.0	63.2	58.8
Windward Oahu	8.0	12.4	11.6	6.3	6.3	12.5	13.5
Leeward Oahu	0.6	9.3	12.0	7.3	3.9	2.8	1.8
Honolulu Oahu	1.7	7.7	2.5	2.4	4.7	23.4	12.1
Hawaii (Big Island)	5.7	16.7	20.0	11.2	15.9	14.2	11.8
Maui	3.9	14.1	18.8	16.3	17.2	16.7	8.9
Kauai	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F-value	39.09	11.98	26.87	42.55	12.88	45.65	44.76
p-value	.000	.000	.000	.000	.000	.000	.000
CBCL							
Central Oahu	17.0	0.4	19.2	8.6	11.0	20.0	25.4
Windward Oahu	6.2	12.1	9.8	8.7	8.7	7.5	11.0
Leeward Oahu	1.2	7.1	9.2	6.4	4.4	3.9	0.6
Honolulu Oahu	0.8	1.7	1.1	0.8	3.8	27.7	9.1
Hawaii (Big Island)	5.8	9.3	11.0	6.6	13.4	8.1	8.4
Maui	2.4	12.6	12.7	9.4	11.7	12.1	14.6
Kauai	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F-value	20.22	11.04	10.54	4.42	5.36	12.71	10.24
p-value	.000	.000	.000	.000	.000	.000	.000

Note: * Significant trend across fiscal quarters using α of .05; boldface indicates statistically significant effects.

Table 6 (continued). Percent of youth with child status measures completed and the results of Analysis of Variance (ANOVA) testing the relationship between geographic region and completion rates for each fiscal quarter.

Average Completion Rates	FY 2002				FY 2003		
	1	2	3	4	1	2	3
YSR							
Central Oahu	15.5	0.5	13.5	8.8	10.7	28.0	34.3
Windward Oahu	5.1	9.6	8.9	2.4	11.6	6.9	13.4
Leeward Oahu	0.7	5.5	7.5	6.6	8.7	4.3	3.2
Honolulu Oahu	1.3	1.2	0.4	0.0	6.2	25.4	13.8
Hawaii (Big Island)	5.6	7.7	7.0	5.2	12.0	6.7	5.4
Maui	2.9	8.7	9.1	6.9	12.1	10.1	13.6
Kauai	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F-value	14.83	6.86	6.41	4.81	2.13	15.09	16.08
p-value	.000	.000	.000	.000	.047	.000	.000

Note: * Significant trend across fiscal quarters using α of .05; boldface indicates significant effects.

Personnel. Analysis of variance (ANOVA) was also used to determine if differences existed across Care Coordinators in the child status measure completion rates for their caseloads. In all quarters, for all measures, significant differences were evident across care coordinators (see Table 7). These effects were the largest for the CAFAS and CALOCUS ($\eta^2 = .34 - .61$) than for the ASEBA measures ($\eta^2 = .16 - .38$). Not surprising, the effects were the strongest for the measures over which the care coordinators had the most control, but significant differences were evident regardless of instrument.

Table 7. Results of Analysis of Variance (ANOVA) testing whether child status measure completion rates differed across care coordinators for each fiscal quarter.

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
F-value	9.75	.701	8.55	8.44	4.82	6.96	11.39
p-value	.000	.000	.000	.000	.000	.000	.000
η^2 -value	.452	.405	.479	.469	.340	.413	.509
CALOCUS							
F-value	13.49	12.46	14.51	13.38	6.11	8.84	11.44
p-value	.000	.000	.000	.000	.000	.000	.000
η^2 -value	.533	.548	.609	.584	.395	.471	.511
TRF							
F-value	4.13	4.20	5.65	5.26	2.94	6.05	6.11
p-value	.000	.000	.000	.000	.000	.000	.000
η^2 -value	.259	.290	.378	.356	.240	.379	.358
CBCL							
F-value	2.94	3.97	3.28	3.71	2.56	5.23	3.08
p-value	.000	.000	.000	.000	.000	.000	.000
η^2 -value	.199	.278	.261	.280	.215	.345	.219
YSR (11 – 18 years only)							
F-value	2.08	3.05	2.10	1.64	2.07	4.71	4.08
p-value	.000	.000	.000	.000	.000	.000	.000
η^2 -value	.173	.258	.205	.164	.193	.338	.291

Note: Boldface indicates significant effects.

Med-Quest. Independent sample t-tests comparing the completion rates across Med-Quest involvement groups. These analyses indicated that more significant differences became apparent between these groups as time passed and completion rates increased (see Table 8). Specifically, in each of the most recent four quarters, Med-Quest involved youth had significantly higher completion rates on the CAFAS and CALOCUS. Further, in three of the four quarters, this effect was also significant regarding TRF completion rates. The size of the effect ranged from 9 to 19% for the CAFAS and CALOCUS, and from 6 to 9% for the TRF. The Med-Quest involved group showed significant improvements in the completion rates across time for all measures, whereas the uninvolved group showed significant improvements on the CAFAS, CALOCUS, and YSR. These findings may suggest that those youth being assessed quarterly were more likely to be determined Quest eligible or that those who were determined Quest eligible were more likely to be assessed. The fact that this coincided with an increase in the proportion of the population that was Med-Quest involved may support the former. The simple increase in overall proportion of Med-Quest youth alone cannot account for the differential completion rates across groups. Because the Quest eligibility determination is an active, ongoing process, the uninvolved group might tend to include those families that are less engaged in the system, as well as youth who are incarcerated, runaways, etc. and are therefore less likely to receive quarterly assessments.

Table 8. Completion rates and independent sample t-tests of the relationship between Med-Quest Involvement and child status measure completion rates for each fiscal quarter.

	FY 2002				FY 2003		
	1	2	3	4	1	2	3
CAFAS							
Non-Quest*	.35	.48	.43	.46	.55	.61	.58
Med-Quest*	.37	.56	.44	.62	.71	.76	.67
t-value	-0.93	-2.83	-0.45	-5.82	-6.13	-5.31	-2.86
p-value	.354	.005	.655	.000	.000	.000	.004
CALOCUS							
Non-Quest*	.29	.37	.34	.41	.48	.56	.55
Med-Quest*	.34	.39	.35	.54	.67	.65	.64
t-value	-1.79	-0.64	-0.27	-4.49	-6.67	-3.174	-2.76
p-value	.074	.522	.789	.000	.000	.002	.006
TRF							
Non-Quest	.07	.10	.15	.11	.08	.16	.12
Med-Quest*	.06	.12	.16	.17	.10	.24	.21
t-value	0.85	-1.53	-0.47	-2.85	-1.64	-3.16	-3.33
p-value	.396	.126	.640	.005	.102	.002	.001
CBCL							
Non-Quest	.05	.07	.09	.06	.07	.11	.09
Med-Quest*	.05	.08	.10	.07	.12	.12	.12
t-value	0.40	-0.68	-0.38	-0.34	-2.61	-0.85	-1.49
p-value	.687	.500	.708	.733	.009	.394	.136
YSR							
Non-Quest*	.05	.05	.07	.05	.09	.11	.09
Med-Quest*	.06	.07	.08	.05	.13	.12	.15
t-value	-0.80	-1.02	-0.63	-0.16	-2.12	-0.50	-2.30
p-value	.425	.309	.532	.874	.034	.621	.022

Note: * Significant trend across fiscal quarters using α of .05; boldface indicates statistically significant effects.

Conclusions and Recommendations

The primary question of this study was whether the completion rate for child status measures has improved during the study period. To increase the completion rate and use of the resultant information to improve clinical care, multiple feedback interventions were implemented during the study period. Statistically significant increases were evident in the completion rates for all child status measures except the TRF. The CAFAS and CALOCUS rates increased an average of 4 to 5% per quarter, whereas the CBCL and YSR rates increased an average of 1% per quarter. At the end of the period, the CAFAS and CALOCUS were completed on approximately 60% of eligible youth whereas the CBCL and YSR were completed on approximately 10% of eligible youth. Although not significantly improving, the TRF was completed on 15% of youth during the final quarter measured.

In prior years, one argument for low completion rates was that the information was not readily available for clinical decision-making. In response to this apparently valid concern, on-demand clinical reports of this information were made available. This provides an important step in creating a process that makes available information accessible, but such an information process can only deliver available content. At present, CAFAS and CALOCUS completion rates are such that this information is routinely available on a majority of cases. The CAFAS and CALOCUS are clinician rated measures, so CAMHD personnel have a high degree of control over the completion rates. This combination of data availability and active delivery of that information to clinical decision-making situations (e.g., supervision) seem to support the anecdotal reports from “front-line” CAMHD clinical personnel that they prefer the CAFAS and CALOCUS measures for their clinical utility. This dynamic mixture of perceived clinical utility, a solid database of information, and a relevant delivery platform may be near or exceeding the “critical mass” at which the system becomes self-supporting and self-regulating.

Although the present study did not examine non-linear trends, there is some mild indication that the completion rates may be leveling off near the 60% mark. Continued monitoring is recommended to determine if this will be a temporarily stable intermediate state or whether this becomes a self-regulating “set point” that will require additional intervention to move beyond. The significant linear trends in the present analysis support the conclusion that rates are increasing and should be expected to continue.

The ASEBA information is in a different set of circumstance and may require a different intervention strategy. The ASEBA uses parents, teachers, and youth as reporters and therefore requires much more coordination and cooperation among stakeholders to be completed. Although this reduces the control that CAMHD personnel have over instrument completion, system designers often cite the addition of reports from multiple stakeholders as a primary benefit to including the ASEBA in routine assessments. Further, limited control does not imply lack of any influence. Indeed, higher completion rates for the ASEBA at the Central Oahu Family Guidance Center suggest that it is feasible to achieve comparable completion rates for the ASEBA.

At present, the ASEBA measures have a relevant delivery platform, but only a limited database of information in all regions except for Central Oahu and apparently little perceived clinical utility based on anecdotal reports. Hopefully, the minor increases in available ASEBA information and the delivery platform will help the “early adopters” in each region to perceive the ASEBA as a clinically useful instrument. These “early adopters” should be encouraged to be “opinion leaders” in their offices to advocate and model the accessibility and utility of the ASEBA information. Also, some assessment of the perceived utility of the ASEBA at the Central Oahu Family Guidance is recommended to determine if the improved information availability has coincided with perceptions of the ASEBA as a useful instrument.

Due to the different completion rates across instruments, it is recommended that completion rates be monitored at the level of specific instruments by geographic region and by Med-Quest involvement. The present use of performance indicators defined using either-or criteria has supported an overall increase in completion rates, but does not promote a comprehensive increase in completion rates. Once the overall completion rates are stabilized, targeted improvements in completion of all measures seems to be a reasonable next step.

The differences across geographic regions may call for region specific corrective action plans. For example, Kauai does not currently enter any ASEBA information into CAMHMIS. Due to the design of the Mokihana Project, ASEBAs are completed and scored by program psychologists using stand-alone programs. Unfortunately, the proprietary ASEBA data manager does not support the type of networking that would be

necessary to automate capture of this information. However, a mechanism could be developed in CAMHMIS to allow manual entry of scale scores rather than items. The Provider Monthly Summary forms include fields that allow for such entry, but use of these forms requires the personnel administering the assessment to be assigned a clinician ID number, which is accomplished through the credentialing process. At present, Mokihana psychologists are not credentialed with CAMHD.

Further, anecdotal reports indicate that care coordinators, families, and teachers perceive quarterly completion of the ASEBA forms as too frequent. The CBCL and YSR instruct respondents to report on behaviors “now or within the past 6 months” whereas the TRF instructions specify “now or within the past 2 months.” Thus, quarterly completion of the CBCL and YSR request duplicate information from parents and youth. It is recommended that consideration be given to performing an experimental study that would randomly assign consumers to complete the ASEBA on a quarterly or semiannual schedule to determine if completion rates are differentially affected in these two groups.

Although a relevant clinical information delivery platform has been developed, it too is still in its “early adopter” phase. All family guidance centers have been trained and sufficient knowledge to support its use was evident at post-test assessment. Several guidance centers report routine use of the clinical reports, but continue to cite system speed as an obstacle to its use. New reports have continued to be added and the report module has become the delivery platform for an expanding database of clinical information (i.e., provider monthly summaries were included as were accepted records). The continued development of the clinical module as the “turnkey” solution to clinical information availability should increase its relevance and promote routine interaction between clinical staff and the system. For these developments to continue, the system speed should be improved, more options for selecting clinically defined (e.g., all youth in a given level of care or all youth admitted within 30 days) and user defined (e.g., select multiple clients for a single report) populations should be added, and the system should continue to be distributed to multiple computers when this can be accomplished without significantly reducing system performance. Providing a mechanism for users to share “success stories” and describe situations in which the information was used to identify or solve a “tricky” problem may also promote interest in and creative use of the information.

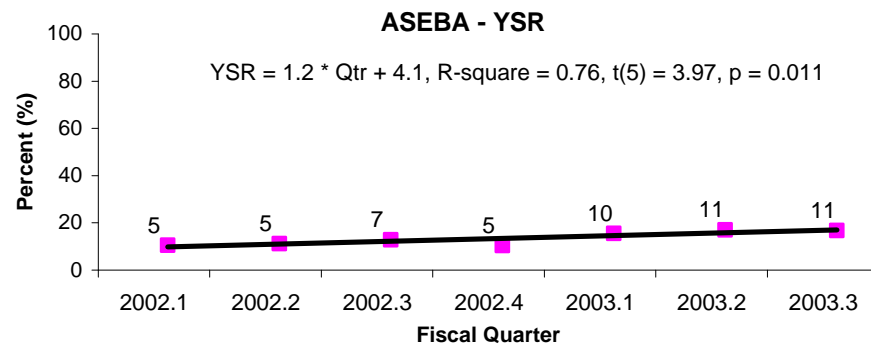
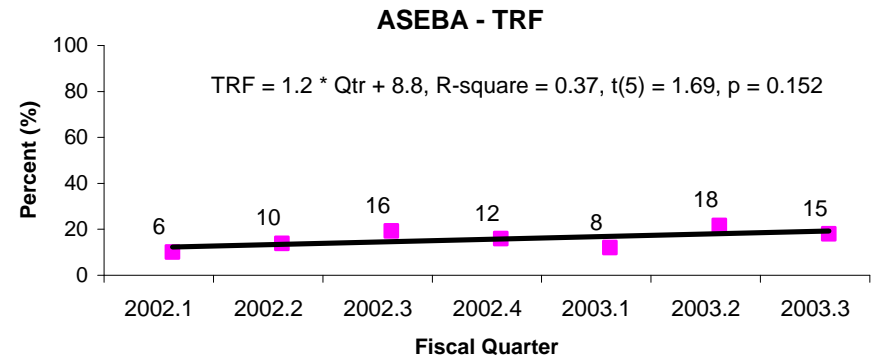
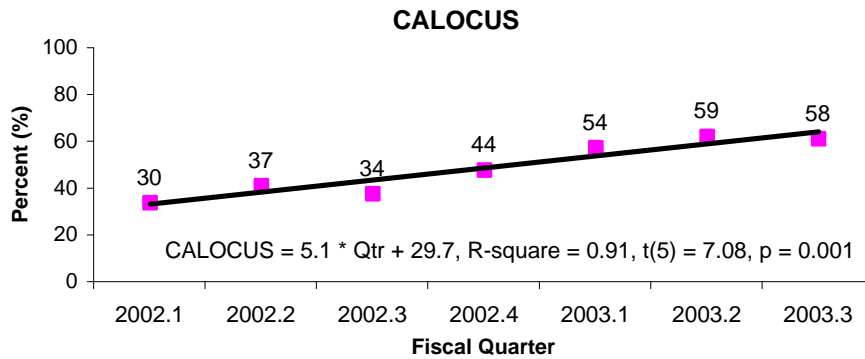
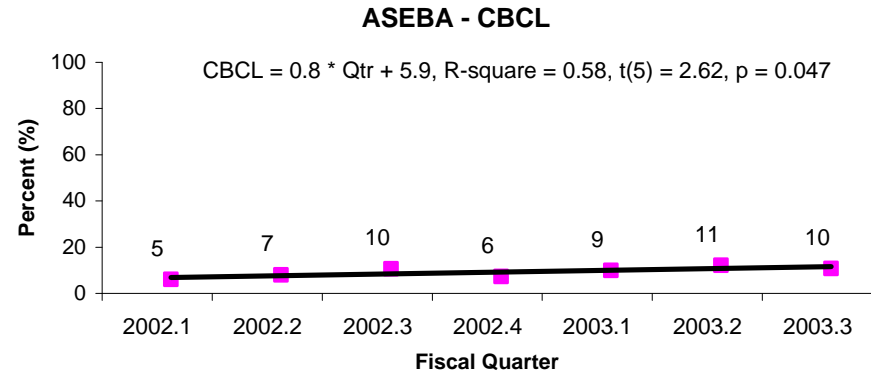
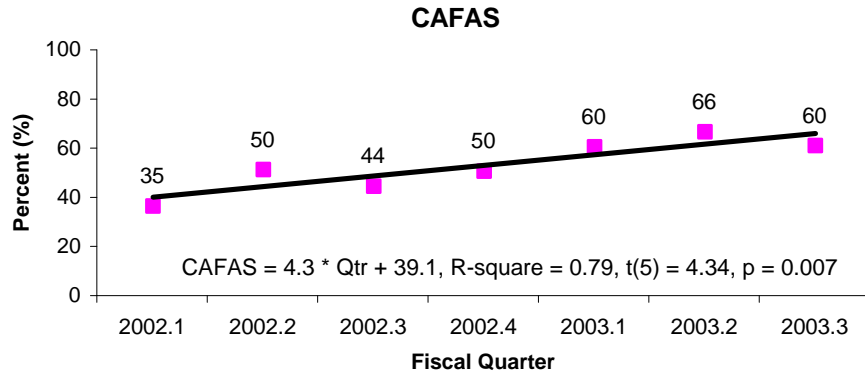
When variables are roughly grouped in child factors (i.e., age, gender, ethnicity, and diagnosis) and system factors (i.e., family guidance center, care coordinator, and Med-Quest involvement), it was found that system factors were far more highly related to measure completion rates. Thus, opportunities for improvement should probably target management processes and employee performance rather than specific child populations. To further develop an understanding of the organization factors that affect completion of these instruments, in-depth interviews and qualitative analysis of the management processes and personnel of high and low performing units are recommended. It is also recommended that future analysis investigate whether additional system variables, such as type of service provided, are related with child status measure completion rates.

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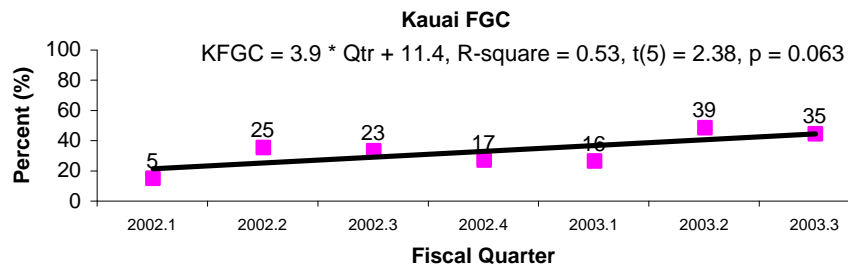
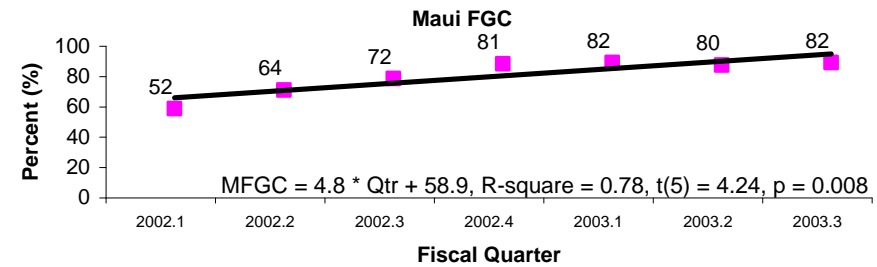
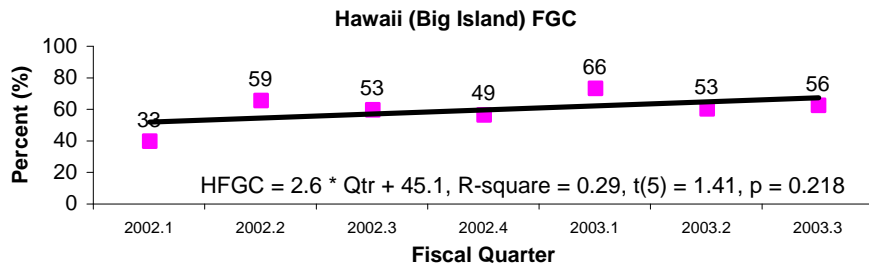
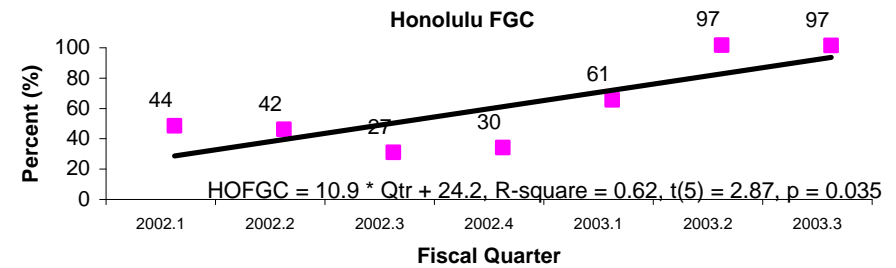
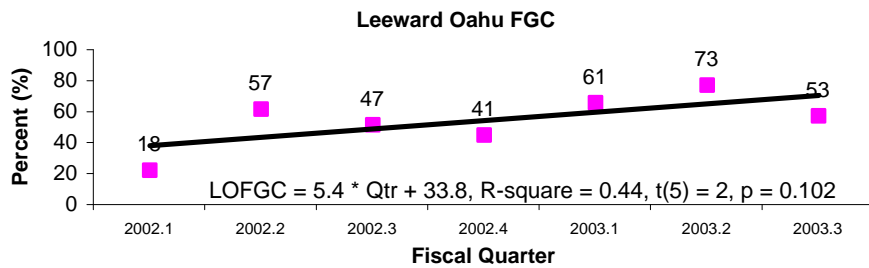
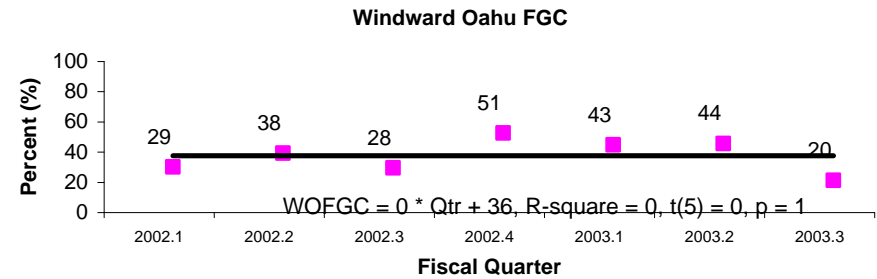
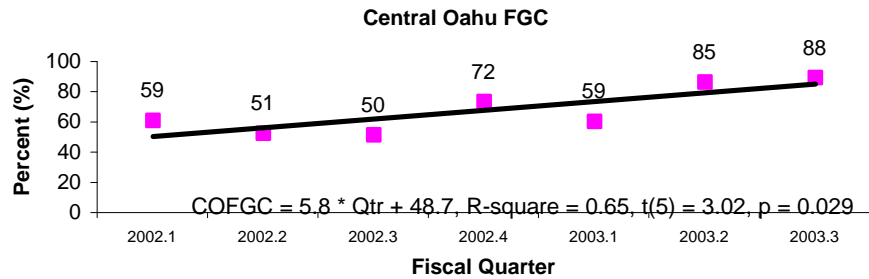
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Figures

**Figure 1: Child Status Measure Completion Rates
For the Period of July, 2001 to March 31, 2003
as of March 31, 2003**



**Figure 2a: CAFAS Completion Rates by Geographic Region
For the Period of July 1, 2001 to March 31, 2003
as of March 31, 2003**



**Figure 2b: CALOCUS Completion Rates by Geographic Region
For the Period of July 1, 2001 to March 31, 2003
as of March 31, 2003**

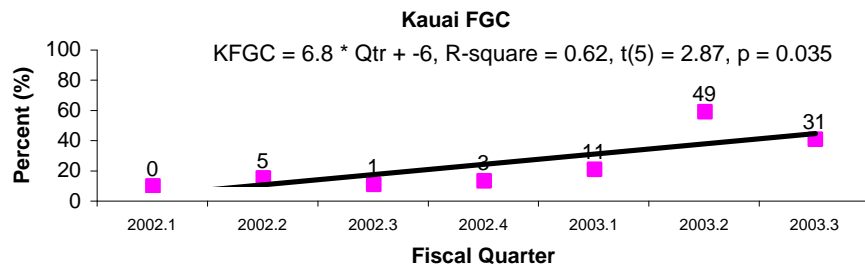
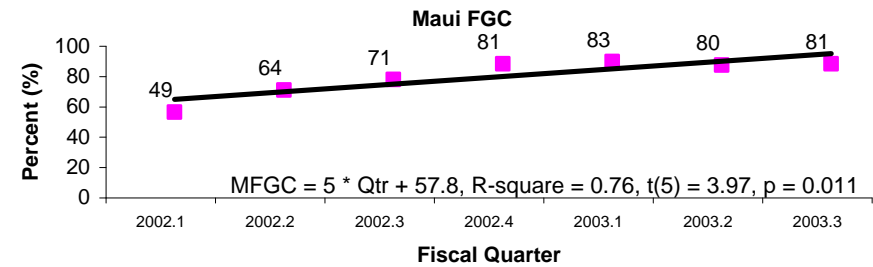
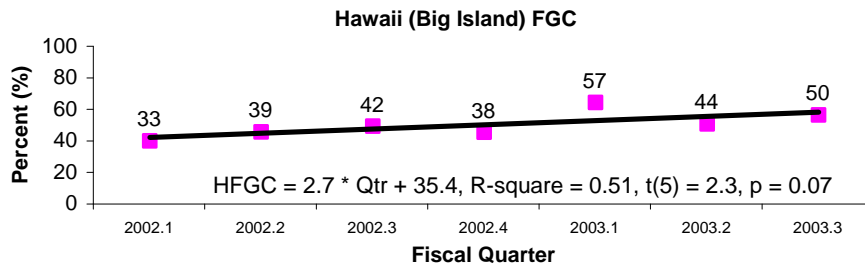
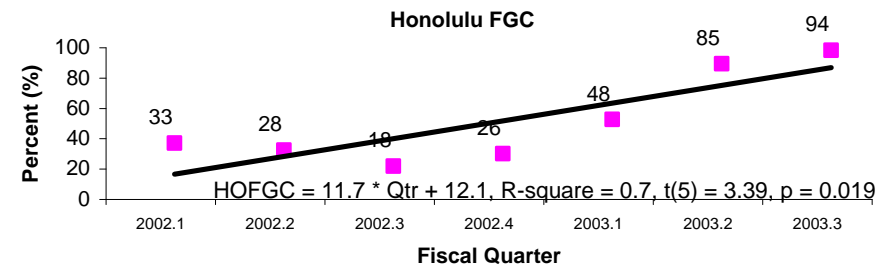
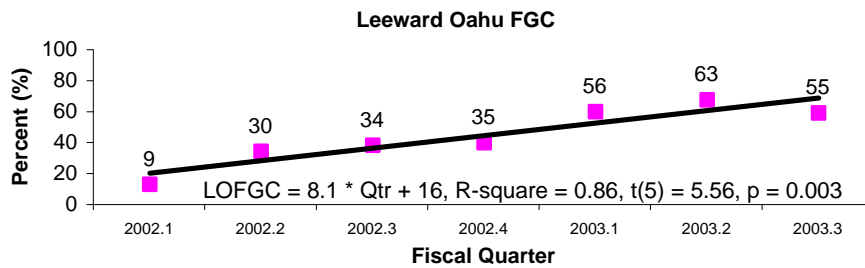
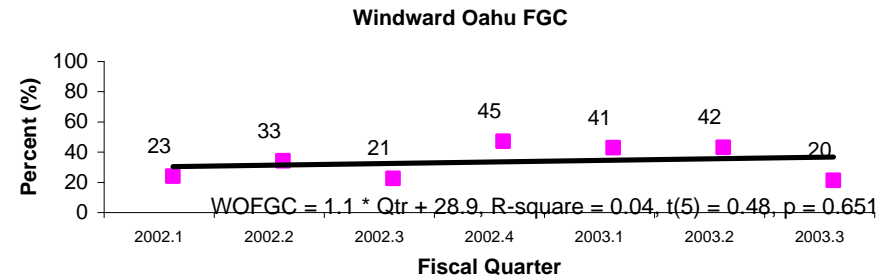
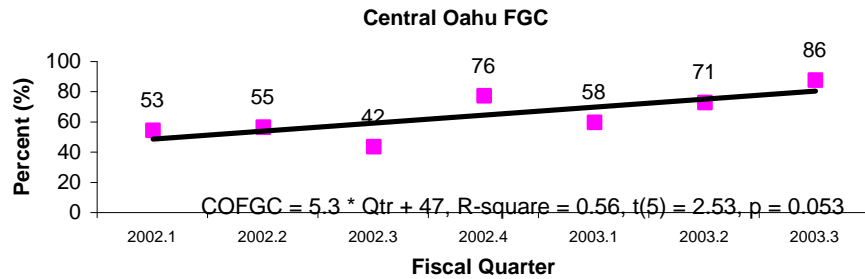
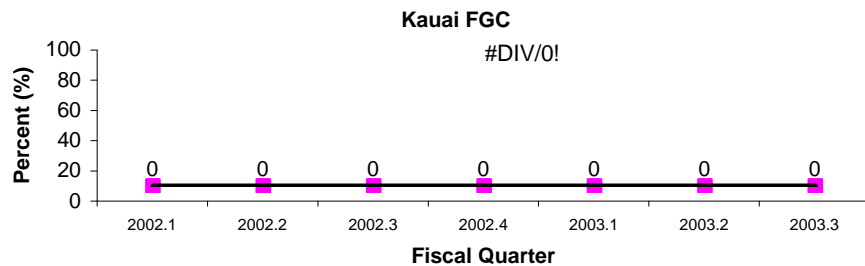
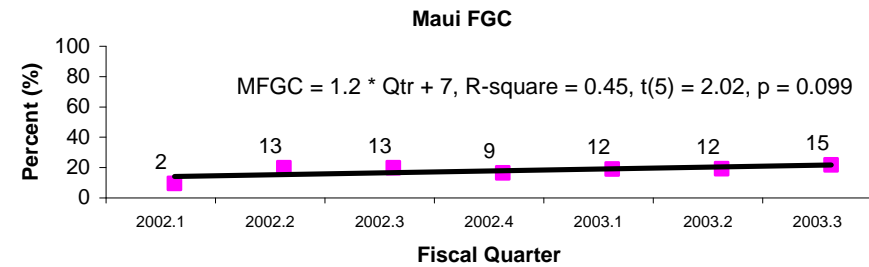
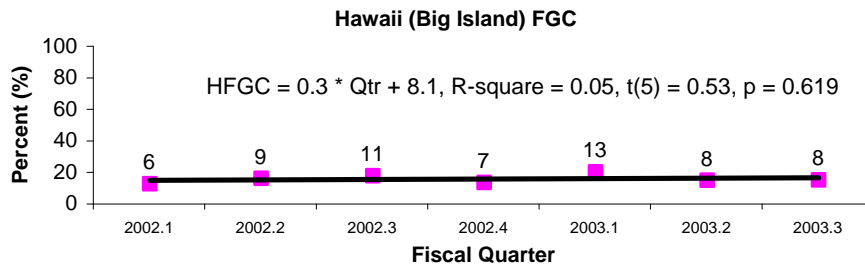
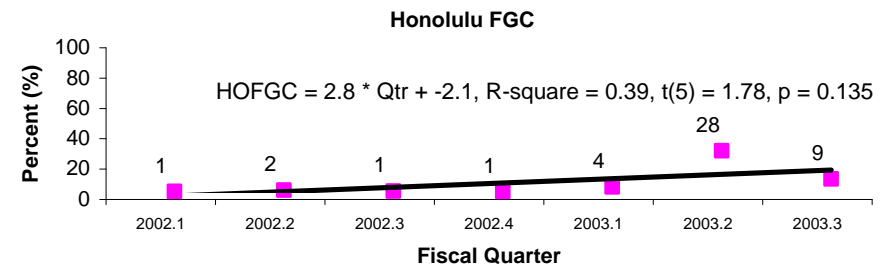
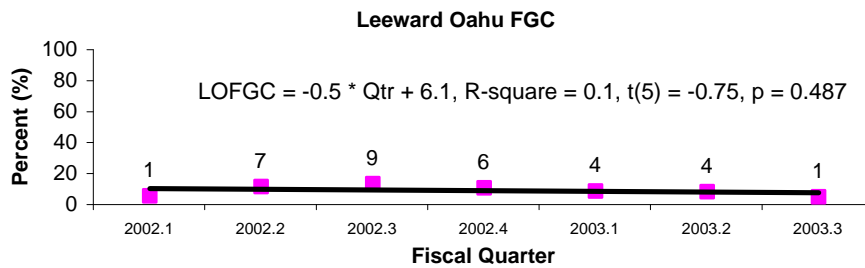
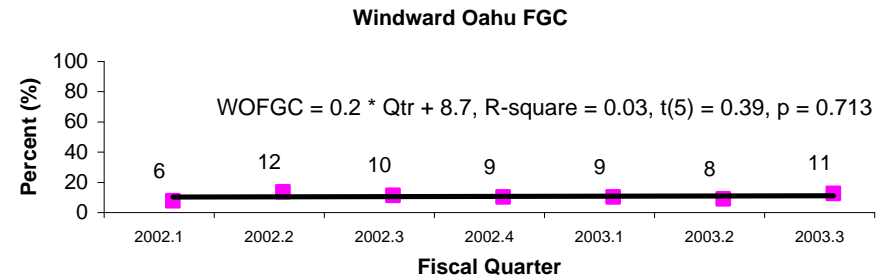
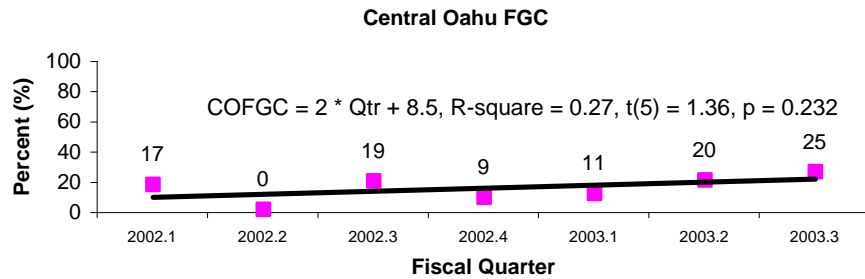
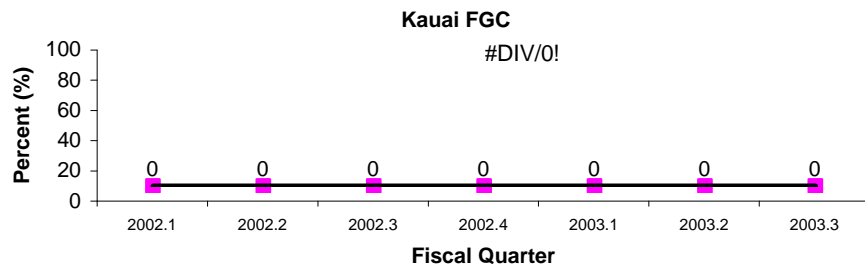
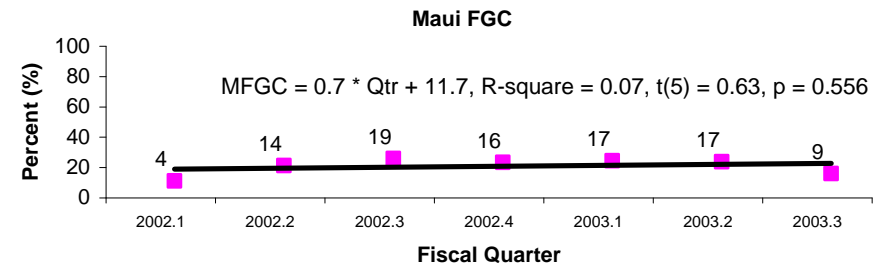
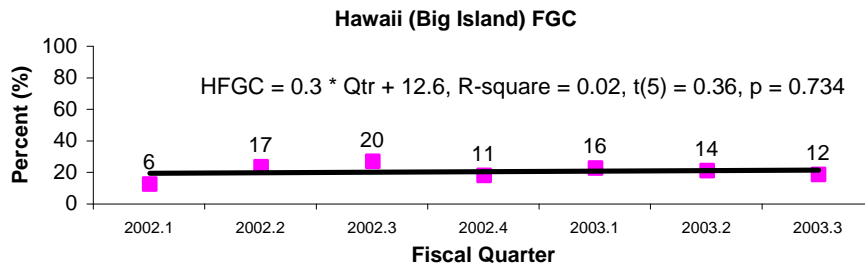
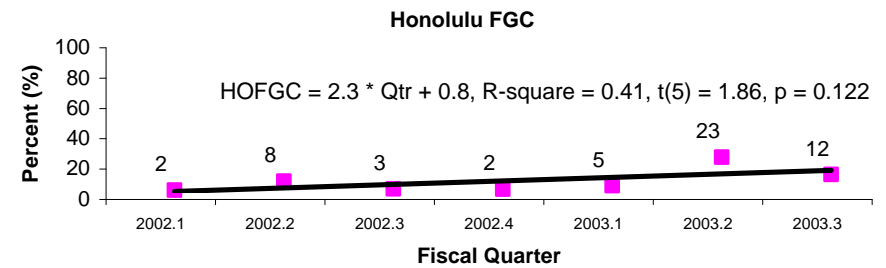
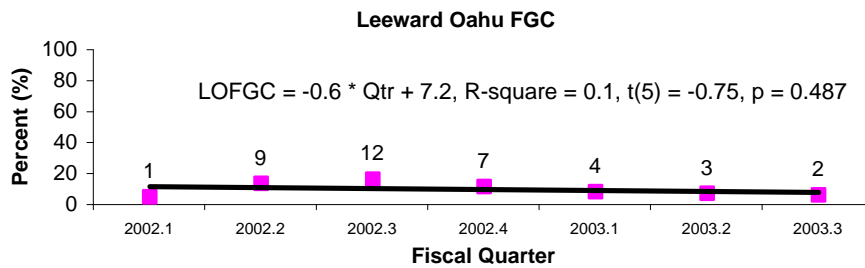
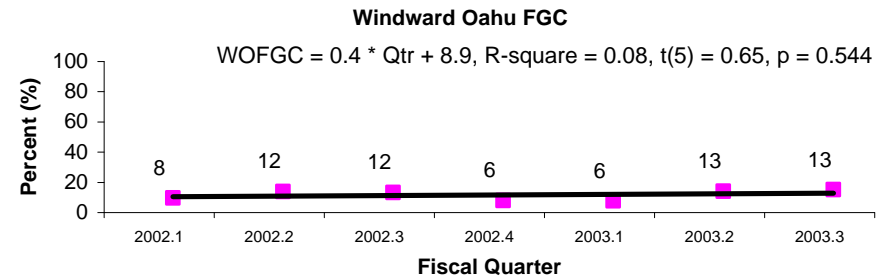
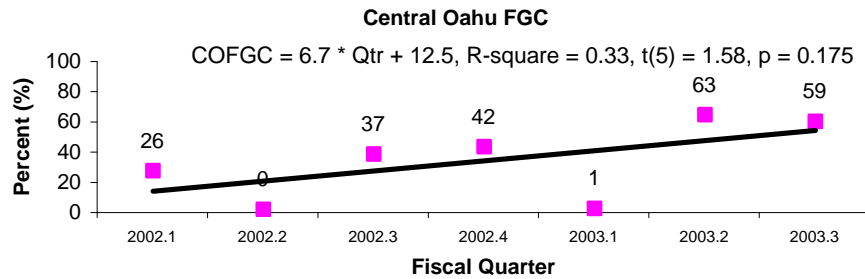


Figure 2c: ASEBA CBCL Completion Rates by Geographic Region
For the Period of July 1, 2001 to March 31, 2003
as of March 31, 2003



**Figure 2d: ASEBA TRF Completion Rates by Geographic Region
For the Period of July 1, 2001 to March 31, 2003
as of March 31, 2003**



**Figure 2e: ASEBA YSR Completion Rates by Geographic Region
For the Period of July 1, 2001 to March 31, 2003
as of March 31, 2003**

